Application No.: 10/708,339 Docket No.: 22040-00016-US2

REMARKS

Claims 1-4 remain pending in this Continuing Application. Claim 1 is independent. No claims have been added or canceled by this Response.

Anticipation Rejection over Franca-Neto

Withdrawal of the rejection of claim 1 under 35 U.S.C. §102(b) as being anticipated by Franca-Neto (US 6,509,799) is requested.

Applicant notes that anticipation requires the disclosure, in a prior art reference, of each and every limitation as set forth in the claims.[1] There must be no difference between the claimed invention and reference disclosure for an anticipation rejection under 35 U.S.C. §102.[2] To properly anticipate a claim, the reference must teach every element of the claim.[3] "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference".[4] "The identical invention must be shown in as complete detail as is contained in the ...claim."[5] ***In determining anticipation, no claim limitation may be ignored.***[6] The applied art fails to meet this requirement, certainly at least with respect to independent claim 1.

Deficiencies of Franca-Neto

Franca-Neto is directed to an electrically tuned integrated amplifier for wireless communication which includes a resonant circuit with a voltage variable capacitance as one of its elements which is used to vary the center-frequency of the resonant circuit and the amplifier.

Applicants' disclosure relates to an amplifier circuit which reduces so-called "flicker noise" or "1/f noise" which poses particular problems at the frequencies associated with AM

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[1] *Titanium Metals Corp. v. Banner*, 227 USPQ 773 (Fed. Cir. 1985).
[2] *Scripps Clinic and Research Foundation v. Genentech, Inc.*, 18 USPQ2d 1001 (Fed. Cir. 1991).
[3] *See* MPEP § 2131.
[4] *Verdegaal Bros. v. Union Oil Co. of Calif.*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).
[5] *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). (emphasis added).
[6] *Pac-Tex, Inc. v. Amerace Corp.*, 14 USPQ2d 187 (Fed. Cir. 1990).

broadcasting, i.e., 530-1710 KHz or even lower frequencies such as 153-279 KHz. Such frequency ranges are adverse to use of CMOS circuitry, by the fact that NMOS devices used in CMOS configurations have undesirably high "1/f" noise characteristics.

In contrast, higher frequency applications at GHz or FM radio bands are not concerned with the effects of "1/f" flicker noise, since flicker noise is inversely proportional to the frequency of operation.

With respect to the claims and the specific deficiencies of Franca-Neto, the applied art, taken alone or in combination, does not teach or suggest an amplifier circuit suitable for amplifying an AM broadcast signal which includes, among other features, "FET means for amplifying the AM broadcast signal and reducing a flicker noise level in the amplifier below an N-MOS transistor equivalent flicker noise," as recited in independent claim 1.

Further, Franca-Neta also is deficient with respect to the additional limitation in independent claim 1 of "a tuning circuit operatively connected ***between*** the FET means and an output node of the amplifier circuit." (emphasis added)

First, while it is unclear from the applied art whether Franca-Neta is "suitable for amplifying an AM broadcast signal," Franca-Neta clearly does not present any technical rationale or support for ***any*** interpretation that ***any*** FET configuration in Franca-Neta, in particular the cited M1, M2 series transistor combination, reduces a flicker noise level in the amplifier below an N-MOS transistor equivalent flicker noise. This teaching is clearly not present in the applied art. The only teaching in this regard is in Applicant's disclosure.

In addition, the tuning circuit in FIG. 2 of Franca-Neta (inductor 48 and capacitor 52) is not connected ***between*** the combination of M1 and M2 (the asserted "FET means") and signal output terminal 26 of the amplifier; rather, the tuning circuit cited by the Examiner is connected between supply terminal 34 and the signal output terminal 26.

Clearly, ***neither*** limitation is disclosed by the applied art, and Franca-Neto, therefore, can not, as a matter of law, anticipate independent claim 1.

Accordingly, withdrawal of the rejection and allowance of independent claim 1 are requested. Further, since claims 2-4 depend from allowable claim 1, these claims are allowable at least on that basis, without further recourse to the patentable subject matter contained therein.

Unpatentability Rejection over Franca-Neto and Sechi

Withdrawal of the rejection of claim 4 under 35 U.S.C. §103(a) as being unpatentable over Franca-Neto in view of Sechi (US 4,409,557) is requested.

At the outset, Applicant notes that, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, ***the prior art references must teach or suggest all the claim limitations***.[7] Further, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure.[8] The applied art clearly does not meet this requirement, at least with respect to dependent claim 4.

Deficiencies of Sechi

While Sechi FIG. 3 may disclose DC-blocking transistor 16 connected to a base of NPN bipolar transistor 21a as offered by the Examiner, Sechi clearly does not make up for the previously identified deficiencies of Franca-Neto, discussed with respect to independent claim 1, above.

Since the applied art, either alone or in combination, does not teach or suggest all the limitations of dependent claim 4 and independent claim 1 from which claim 4 depends, withdrawal of the rejection and allowance of claim 4 are requested.

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[7] *See* MPEP §2143. (emphasis added).
[8] *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) and *See* MPEP §2143.

Unpatentability Rejection over Sechi

Withdrawal of the rejection of claims 1-4 under 35 U.S.C. §103(a) as being unpatentable over Sechi (FIG. 3) is requested.

The legal standards for obviousness have been provided above.

An essential evidentiary component of an obviousness rejection is a teaching or suggestion or motivation to [modify] the prior art reference[s].[9] Combining prior art references without evidence of a suggestion, teaching or motivation simply takes the inventors' disclosure as a blueprint for piecing together the prior art to defeat patentability – the essence of hindsight.[10]

"There are three possible sources for a motivation to combine [or modify] references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art."[11] Further with regard to the level of skill of practitioners in the art, there is nothing in the statutes or the case law which makes "that which is within the capabilities of one skilled in the art" synonymous with obviousness.[12] The level of skill in the art cannot be relied upon to provide the suggestion to combine references.[13]

Further Deficiencies of Sechi

Applicant submits that a person having skill in the art would not be motivated to look to Sechi to solve the flicker noise problems at AM broadcast frequencies addressed by Applicant's claimed invention. In fact, Sechi is silent on solving flicker noise problems.

Sechi is directed to a bandpass filter with an active element to produce a high Q for use in various electronic warfare systems.

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[9] *C.R. Bard, Inc. v. M3 Systems, Inc.*, 48 USPQ2d 1225 (Fed. Cir. 1998)
[10] *Interconnect Planning Corp. v. Feil*, 227 USPQ 543 (Fed. Cir. 1985)
[11] *See* MPEP §2143.01, citing *In re Rouffet*, 149 F.3d, 1350, 1357, 47 USPQ2d 1453, 1457-8 (Fed. Cir. 1998).
[12] *Ex parte Gerlach and Woerner*, 212 USPQ 471 (PTO Bd. App. 1980).
[13] *See* MPEP §2143.01, citing *Al-Site Corp. v. VSI Int'l Inc.*, 50 USPQ2d 1161 (Fed. Cir. 1999).

In setting forth the asserted motivation to modify Sechi as suggested by the Examiner, the Examiner stated that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted well known art-recognized equivalent transistors such as the p-type FETs in place of the n-type bipolar transistors in . . . Sechi (Fig. 3) because such a modification would have been considered a mere substitution of art-recognized equivalent transistors."[14]

The assertion that p-type FETs and NPN bipolar junction transistors are "art equivalent" devices is clearly technically incorrect.

In the instant application and in RF amplifier and solid state circuit design in particular, n-channel MOSFETS and p-channel MOSFETS are recognized as possessing different operating characteristics, which can be particularly noteworthy and important as a function of operating frequency. Moreover, FETs and bipolar junction transistors (BJTs) are even more differentiated devices, with FETs being voltage controlled, and BJTs being current controlled; each having their relative advantages and disadvantages, depending on the particular application. FET devices, due to their characteristics, may be more appropriate in certain applications, and BJT devices may be more appropriate for other applications, based upon their particular characteristics.

Thus, Applicant traverses the Examiner's unfounded assertion that it would have been obvious "to have substituted well known art-recognized equivalent transistors such as the p-type FETs in place of the n-type bipolar transistors in the circuit of Sechi (Fig. 3) because such a modification would have been considered a mere substitution of art-recognized equivalent transistors." Applicants assert that substitution of FETs as a mere substitution of an art-recognized equivalent to an NPN BJT is unreasonable, particularly at RF frequencies, and even more particularly with respect to AM broadcast frequencies, as in the limitations of claim 1, and as further discussed in Applicant's disclosure with respect to the different operating characteristics of different devices.

[14] *See* Official Action at p. 3, 3rd paragraph.

Rejections Appear to be Based upon Impermissible Hindsight

The Examiner's assertion cited above and rejections appear to be the product of impermissible hindsight, based upon Applicant's disclosure.

It is impermissible within the framework of 35 U.S.C. §103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art.[15] Further in this regard, As the Court of Customs and Patent Appeals, predecessor to the Federal Circuit, has held:

> All relevant teachings of cited references must be considered in determining what they fairly teach to one having ordinary skill in the art. The relevant portions of a reference include not only those teachings which would suggest particular aspects of an invention to one having ordinary skill in the art, but also those teachings which would lead such a person away from the claimed invention.[16]

The rejections in the Official Action amount, in substance, to nothing more than hindsight reconstruction of Applicants' invention by relying on isolated teachings of the applied art, without considering the overall context within which those teachings are presented. Without benefit of Applicants' disclosure, a person having ordinary skill in the art would not know what portions of [Sechi] to consider, and what portions to disregard as irrelevant or misleading.[17]

Further, the Examiner has impermissibly disregarded the functional aspects of the means plus function limitation relating to "FET means ***for amplifying the AM broadcast signal and reducing a flicker noise level in the amplifier below an N-MOS transistor equivalent flicker noise.***" The Examiner can not read this limitation out of the claim.

Therefore, withdrawal of the rejection, and allowance of claims 1-4 are respectfully requested.

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[15] *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 230 USPQ 416 (Fed. Cir. 1986).
[16] *In re Mercier*, 185 USPQ 774, 778 (CCPA 1975).
[17] *In re Wesslau*, 147 USPQ 391, 393 (CCPA 1965).

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Conclusion

In view of the above remarks, applicant believes the pending application claims 1-4 are in condition for allowance.

If the Examiner believes that an interview would serve to resolve any remaining issue, the undersigned attorney is available at the telephone number indicated below.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 22-0185, under Order No. 22040-00016-US2 from which the undersigned is authorized to draw.

Respectfully submitted,

By Larry J Hume

Larry J. Hume
Registration No.: 44,163
CONNOLLY BOVE LODGE & HUTZ LLP
1990 M Street, N.W., Suite 800
Washington, DC 20036-3425
(202) 331-7111
(202) 293-6229 (Fax)
Attorney for Applicant